

REMARKS

Favorable reconsideration and allowance of this application are requested.

All pending claims remain rejected under 35 USC §103(a) as allegedly “obvious” and hence unpatentable over the previously cited Bayer and Johnston references. In this regard, the Examiner remains unconvinced that the Declaration evidence submitted with the applicants’ prior response establishes unexpected results.

For example, the Examiner again focuses on the Elmendorf tear strength difference as being possibly attributed to “standard error measurements” or “an expected difference due to the presence or lack thereof of branched polyamides.” As was pointed out to the Examiner during prior prosecution, while the Elmendorf tear strengths may in fact be comparable to one another, the bubble stability attributed to the comparative experiment A is much worse than that attributed to Example 1.

The Examiner however also criticizes the subjective conclusion with regard to bubble stability. With respect to blow-up ratio, applicants note that:

- (a) a blow-up ration of 2.5 obtained with the examples according to the present invention should be compared with no bubble stability at all, and
- (b) a difference in blow-up ratio of 0.4 is in fact technically significant.

As to (a) above, applicants note that the present invention relates to a process for reproducing a molded structure of a polyamide layer and a polyolefin layer, comprising blow=molding a multilayer film containing at least a branched polyamide layer and a polyolefin layer directly connected to the polyamide, wherein the branched polyamide layer consists of a branched polyamide and the polyolefin layer consists essentially of polypropylene or LLDPE containing at most 5% of another polyethylene.

This results in a high blow-up ratio, which is exemplified for example in Example II on pages 6-7 of the specification.

The process against which the present invention should be compared is therefore one which produces a film in which a non-branched polyamide is used with an LLDPE layer, as is exemplified in Comparative Experiment C on page 6 of the present application. As the Examiner will observe, no stable bubble could be obtained. This means therefore that the example according to the present invention (with a blow-up ratio of 2.5) should be compared to the situation where no stable bubble could be obtained. Accordingly, the Examiner's criticisms on this issue are unfounded.

As to (b), one known solution to the problem to obtain a stable bubble of a film having a non-branched polyamide and an LLDPE layer is to add LDPE. This known proposal in the art is exemplified in Comparative Example A on page 6 of the present application in which a PE layer consisting of 60 wt.% LLDPE, 30wt% LDPE and 10wt.% YPAREX™ 0H040 (an MZA-modified LLDPE) together with a non-branched polyamide was employed. As noted, the blow-up ratio was only 2.1.

The present invention of course is a completely novel and unobvious solution to lack of bubble stability of a polyamide and an LLDPE layer as compared to that known in the art. In this regard, the process of the present invention results in a higher blow-up ratio of 2.5. Such an increase in blow-up ratio is in fact technically significant.

In this regard, the Examiner asserts that an increase of 0.4 in terms of blow-up ratio is not significant. Applicants respectfully disagree. Specifically, the Examiner's attention is directed to the accompanying article of Kim et al, Polymer Engineering and Science, 2004, vol. 44, no. 2 pages 283-302 (attached as Exhibit A). The Kim et al article is just one example wherein blow-up ratios are generally known in the art to be in the range from 0.5 to 3.0 as shown in Fig. 2 on page 286 and also written on page 287, right column. There it is stated that:

“The operating window for [the blow-up ratio] BUR was from 0.5 to 2.5 this range is slightly narrower than the typical BUR of 3 discussed in the literature.”

Also, it will be observed fig. 2 on page 286 that the error bars for blow-up ratios are shown which demonstrate that a difference in blow-up ratio of 0.4 is fact absolutely significant.

Another example of blow-up ratios can be found in the accompanying Kirk-Othmar Encyclopedia of chemical Technology, “Film and Sheeting Materials”, 3.1.1 Blown Film (attached as Exhibit B). There it is noted that page 15 that the “tube is expanded by air to two or three times its diameter. Form this follows that the blow-up ratio usually is between 2 and 3, and thus a difference of 0.4 is most certainly technically significant.

The Examiner’s factually unsubstantiated criticisms with regard to the evidence of record are therefore erroneous and must be withdrawn.¹

The Examiner notes that, according to Bayer et al, branched polyamide molding materials to polyolefin layers are known. However, Bayer et al relates to a method of producing branched polyamides – nothing more. Applicants do not dispute that branched polyamides are per se known generally. However, applicants emphatically dispute that the art was cognizant to employ branched polyamides in a process as is defined by the present applicants’ claims. Simply stated, nowhere in Bayer et al is there any hint or suggestion of a process for production of multilayer films generally, let alone that by employing branched polyamide leads to higher blow-up ratios. Johnston on the other hand relates to laminate films generally for flexible containers. In Johnston there

¹ Of course, if the Examiner’s position is based on facts within her personal knowledge, she is requested to supply the same by way of an appropriate affidavit pursuant to 37 CFR §1.104(d)(2).

is no mention made at all of branched polyamide, let alone that use of such branched polyamide in the manner claimed would lead to a higher blow-up ratio.

It would therefore most certainly not have been obvious for person skilled in this art to use a branched polyamide when it was desired to produce a multilayer blown film with an LLDPE layer and a polyamide layer since nowhere in Bayer et al and/or Johnston is there any hint that such a technical advance could be achieved. There also would be no expectation of success by a person skilled in the art as branched polyamides are not a polymer that the art recognized could be employed to achieve greater blow-up ratios (it being remembered that the known art approach would be to add LDPE). As such, the Examiner's continued rejection of the pending claims herein and disregard for the evidence of record constitute reversible error.

Withdrawal of the rejection advanced under 35 USC §103(a) based on Bayer et al and Johnston is therefore in order.

DE KROON et al
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Fee Authorization

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140.

Respectfully submitted,

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